

STATE OF CALIFORNIA

Budget Change Proposal - Cover Sheet

DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 3340	Department California Conservation Corps	Priority No. 004
Budget Request Name 3340-004-BR-BCP-2016-GB		Program 2360 – TRAINING & WORK PROG	Subprogram 2360010 – BASE & FIRE CTRS

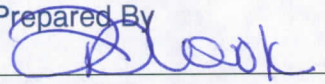
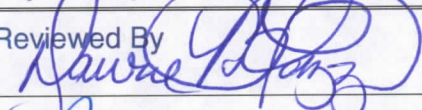
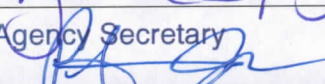
Budget Request Description
CCC Energy Corps and Forest Health

Budget Request Summary

The California Conservation Corps (CCC) is requesting \$15.0 million in Greenhouse Gas Reduction Fund (GGRF) appropriation to operate a new GGRF Energy Corps Program, and \$5.0 million in Collins Dugan appropriation to operate a GGRF Forest Health Program to help the state meet its Greenhouse Gas Emissions (GHGE) reduction targets, save energy, water and forest resources, and train young adults to perform energy and forest conservation work resulting in GHGR, and provide pathways to employment. The CCC's GGRF Programs would reduce GHGE from public buildings located throughout California (at least 60 percent of these public buildings will be within Cal EPA designated Disadvantaged Communities) and improve Forest Health through fuel load reduction, reforestation, and fire remediation. GHGR funds will be appropriated in 2016-17, and made available through June 30, 2019.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date
For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance. <input type="checkbox"/> FSR <input type="checkbox"/> SPR Project No. Date:		

If proposal affects another department, does other department concur with proposal? ☒ Yes ☐ No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By 	Date 1/5/2016	Reviewed By 	Date 1/5/16
Department Director Amanda Martin for Bruce Santo	Date 1/5/2016	Agency Secretary 	Date 1/5/16

Department of Finance Use Only

Additional Review: ☐ Capital Outlay ☐ ITCU ☐ FSCU ☐ OSAE ☐ CALSTARS ☐ Dept. of Technology

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA	Original Signed by Amanda Martin	Date submitted to the Legislature 1-8-16
------	-------------------------------------	---

Analysis of Problem

A. Budget Request Summary

The California Conservation Corps (CCC) is requesting \$15.0 million in Greenhouse Gas Reduction Fund (GGRF) appropriation to operate a new GGRF Energy Corps Program, and \$5.0 million in Collins Dugan appropriation to operate a GGRF Forest Health Program to help the state meet its Greenhouse Gas Emissions (GHGE) reduction targets, save energy, water and forest resources, and train young adults to perform energy and forest conservation work, and provide pathways to employment. CCC's GGRF Programs would reduce GHGE from public buildings throughout California (at least 60 percent will be located in Cal EPA designated Disadvantaged Communities) and improve Forest Health through fuel load reduction, reforestation, fire remediation and erosion control. Funds will be appropriated in 2016-17, and made available through June 30, 2019.

CCC's GGRF Energy Program would focus on GHGE reductions for public buildings located throughout California. To date, these facilities have not had their Energy Efficiency (EE) and/or Water Conservation (WC) needs sufficiently addressed by other funding sources (e. g., Proposition 39, EPIC, CPUC funded incentive programs). The CCC's GGRF Energy Program request includes the following components:

1. GGRF Energy Crews and Associated Staffing: \$4.416 million for FY 2016-17 to fund eleven (11) CCC crews (110 Corpsmembers minimum by the end of the fiscal year) and 24 civil service Personnel Years (PY). For FY 2017-18, \$5.121 million to continue funding the operations of the eleven (11) CCC crews (110 FTE minimum) and the 24 civil service PY necessary for those crews' training, support, and deployment to public buildings throughout the State. The crews will be deployed to the above-referenced public buildings where they will:
 - a. perform 'whole building' Energy Efficiency (EE) and Water Conservation (WC) Surveys (Audits) while simultaneously:
 - i. directly installing proven EE and WC measures that save energy and reduce GHGE; and
 - ii. conducting EE and WC education and outreach to facilities managers, and
 - b. identifying, scheduling, and performing more extensive (labor-intensive) EE and WC retrofit projects that save energy and reduce GHGE.
2. GGRF Energy Crew Direct Project Costs: \$2.924 million for FY 2016-17 and \$2.539 million for FY 2017-18 to fund the acquisition of vehicles, materials and supplies and equipment necessary to carry out 'on-demand' retrofit installations and to fund contract services that are required to analyze the data collected by the CCC in the field.

CCC's GGRF Forest Health Program would focus on improving California's forest health and resilience through fuel load reduction, dead and dying tree removal, reforestation, fire remediation and erosion control projects. The CCC is requesting \$5.0 million in FY 2016-17 in Collins Dugan expenditure authority for the GGRF Forest Health Program to fund various GGRF projects.

This budget request will provide \$20 million in 16/17 and be implemented over two years as summarized:

Budget Category	FY 16-17	FY 17-18	Totals
GGRF Energy Crews and Staff	\$4,415,875	\$5,121,395	\$9,537,270
GGRF Energy Crews (Direct Project Costs)	\$2,924,125	\$2,538,605	\$5,462,730
Forest Health Program Crews and Staff	\$5,000,000	\$0	\$5,000,000
Totals	\$12,340,000	\$7,660,000	\$20,000,000

B. Background/History

Implementation of the California Global Warming Solutions Act of 2006 (AB 32) includes measures that achieve real, quantifiable, cost-effective reductions of GHG emissions and return California to 1990 emission levels by 2020. Since 2006, the State has continued to steadily implement a set of actions that are driving down GHG emissions, cleaning the air, diversifying the energy and fuels that power our society, spurring innovation in a range of advanced technologies and improving natural resource health statewide.

Analysis of Problem

These efforts have put California on course to achieve the 2020 emissions limit, and have created a framework for ongoing climate action that can be built upon to maintain and continue reductions beyond 2020. In addition to the near-term GHG emission reduction goals established in AB 32, mid-term and longer-term GHG emission reduction targets have been established in Executive Orders B-30-15 and S-3-05 to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, respectively.

The Greenhouse Gas Reduction Fund (GGRF -funded by the Cap-and-Trade Program generated Auction Proceeds, authorized by AB 32) has been established for the purpose of funding measures that allow California to achieve its GHG reduction goals, furthering the purposes of AB 32. In addition, SB 535 (de León, Chapter 830, Statutes of 2012) requires that twenty-five percent of GGRF funds are spent to benefit designated disadvantaged communities, and ten percent must be spent within disadvantaged communities.

1. The CCC as an Energy Efficiency and Water Conservation Labor Force

Pursuant to Public Resources Code (PRC) Sections 14000 through 14406, the CCC is an entrepreneurial and incentive-based workforce development program that provides training and education to young adults (18-25 years of age) and veterans (up to 29 years of age) while engaging them in activities that accomplish resource protection and conservation and projects that involve emergency response or preparedness and/or protect, enhance, and/or conserve the environment, natural resources, and/or energy. The Legislature has "reaffirm[ed] its intent that the corps' mission includes increasing awareness of and improving our natural resources, but more importantly, includes instilling basic skills and a healthy work ethic in California youth, building their character, self-esteem, and self-discipline, and establishing within them a strong sense of civic responsibility and understanding of the value of a day's work for a day's wages." (Pub. Res. Code, § 14000(d).)

To assist the CCC in accomplishing its mission, the Legislature required that "a state agency that is considering the use of contracted labor shall give priority to the corps when the mission of the corps and the nature of the state agency's project are substantially consistent." (Pub. Res. Code, § 14315(a).) The Legislature also requires that:

State agencies ***shall*** notify the corps of potential contracts for services that fit within the parameters of the legislative intent set forth in Section 14000 [of the PRC] and ***shall use the corps to the maximum extent feasible*** to carry out projects that promote the legislative intent as set forth in Section 14000. Because of the corps' commitment to the state's youth, in the exercise of a state agency's discretion when considering contracts for services, strong consideration shall be given to the use of corpsmembers over the use of other contracted labor.

(*Id.*, at § 14315(b) [emphasis added].)

GHGE reduction projects, including EE and WC projects, forest health, fire remediation, and drought reduction, are entirely consistent with the CCC's mission, state agencies and other public and private entities have often used the CCC for the type of work proposed by this BCP. The CCC currently performs energy audits and retrofits at K-12 schools under the Proposition 39 Clean Energy Jobs Act. Use of the CCC is also integrated into the bidding calculations for the Department of General Services' (DGS) Energy Savings Performance Contracts RFP program, and works with many ESCOs to perform EE project work throughout California. The CCC has a 40-year history of providing natural resource work in California associated with environmental conservation.

2. The GGRF and the Role of the CCC

The Greenhouse Gas Reduction Fund (GGRF) was created as part of California's multi-pronged effort to reduce Greenhouse Gas Emission (GHGE) to 1990 levels by 2020, and to maintain and continue reductions on a sustainable basis. The California Air Resources Board (ARB) has generated the following combined list of goals and requirements for the use of GGRF monies:

- Reduce GHG emissions;
- Maximize economic, environmental, and public health benefits to the State;
- Foster job creation by promoting in-State GHG emission reduction projects carried out by California workers and businesses;
- Complement efforts to improve air quality;
- Direct investment toward the most disadvantaged communities and households in the State;
- Provide opportunities for businesses, public agencies, nonprofits, and other community institutions to participate in and benefit from statewide efforts to reduce GHG emissions;

Analysis of Problem

- Lessen the impacts and effects of climate change on the State's communities, economy, and environment;
- Allocate at least 25 percent of the available proceeds to projects that provide benefits to disadvantaged communities; and
- Allocate at least 10 percent of the available proceeds to projects located within disadvantaged communities

The CCC's GGRF Programs were designed to address all of the foregoing goals and requirements.

C. State Level Considerations

The Legislature has recognized "that the California Conservation Corps provides an invaluable service" and has expressed its intent "that all state agencies look to the corps first to perform those projects that meet the mission of the corps." (Pub. Res. Code, §§ 14002 and 14000(f).) The Legislature and the voters – through the passage of measures such as AB 32 and its enacting statutes, Propositions 1 and 39, and the Warren-Alquist State Energy Resources Conservation and Development Act – have expressed their intent that California should set a goal of maximizing the energy and water efficiency of its public buildings and reducing GHGE in the process. To meet this goal, the State will have to undertake multiple energy and water efficiency projects. As these projects meet the mission of the corps, all state agencies undertaking them will have to look first to the CCC and then "use the corps to the maximum extent feasible." (Pub. Res. Code, § 14315(b); see also, *id.*, at § 14000(f).)

Moneys from the GGRF currently support a number of programs (see Attachment A). The CCC GGRF Program does not duplicate or overlap any of these programs. Instead, the CCC GGRF addresses currently unaddressed or insufficiently addressed needs, and is entirely consistent with the ARB's guidelines regarding the appropriation and expenditure of GGRF moneys related to Energy Efficiency, Water Action Plans, and Sustainable Forests.

D. Justification

Energy Corps

CCC GGRF Energy Crews and Associated Staffing: \$4.416 million for FY 2016-17 and \$5.121 million for FY 2017-18 to fund eleven (11) CCC crews (110 FTE minimum) and the 24 civil service PY necessary for those crews' training, support, and deployment to perform energy and water conservation work for public buildings throughout the State. The CCC GHGF crews will reduce GHGE from public buildings (at least 60 percent of which will be located within CalEPA designated Disadvantaged Communities) whose efficiency needs have not been sufficiently addressed by other funding sources (e. g., Proposition 39, EPIC, CPUC EE incentive programs) by:

- a. Performing Energy Efficiency (EE) and Water Conservation (WC) Surveys (Audits) while simultaneously:
 - i. directly installing proven EE and WC measures (e. g., lighting replacements with LED and CFL, installing EE thermostats & lighting controls, de-lamping, weather stripping & seals, window tinting, Irrigation system controls, low flow faucet aerators & shower heads, etc.); and,
 - ii. conducting EE and WC education and outreach to facilities managers (providing EE and WC operational 'Best Practices' guides, information about available local Utility EE incentive programs & rebates, job opportunities, etc.), and
- b. scheduling and performing more complex and labor-intensive EE and WC retrofit projects (e. g., lighting fixture replacements, lighting controls & sensors, EE hot water heaters, irrigation controls, etc.).

EE and WC Surveys are a necessary prerequisite to the planning and implementation of GHGE reducing efficiency measures. The need for such Surveys has been recognized by all EE and WC conservation programs including, but not limited to, Proposition 39, DGS's Energy Performance Contract program, and the Federal Energy Independence and Security Act of 2007 (which requires energy and water evaluations to be performed at covered Federal facilities every four years). The CCC has successfully trained and deployed corpsmembers to collect all of the data necessary for EE and WC Audits, to install EE measures, and to perform EE and WC retrofits in a variety of settings, including, but not limited to, K-12 schools, large commercial buildings, light commercial multi-tenant buildings, retail refrigeration units, and federal park facilities.

Analysis of Problem

Use of the GGRF to support the Energy Corps GHGE reduction efforts will leverage the State's investments in the CCC's past and ongoing energy and water efficiency programs. Data collection tools, training and expertise developed through these programs would be directly applied to the CCC's GGRF-funded program.

The direct installation of EE and WC devices by CCC Corpsmembers conducting energy efficiency and water conservation Surveys will create immediate, substantial, and sustainable energy and water savings. Each kWh of electricity saved directly reduces GHG emissions, as does each gallon of water saved (as substantial energy is used to pump, heat, and treat waste water). Energy and water efficiency Surveys themselves can achieve long-term GHG reductions (conservatively estimated at 8% of total energy use) through a combination of directly installing energy and water efficiency devices during the survey process, and providing EE and WC 'Best Practices' recommendations to building managers. One facility visit that combines EE and WC Surveys, direct installs, and outreach can reduce the need for multiple vehicle trips, and therefore directly reduces associated GHG emissions. Labor intensive EE and WC retrofits identified during the survey process and installed on a scheduled basis yield substantially more energy and water savings, and the associated GHGE reductions.

The mission of the CCC includes workforce development through resource conservation. The GGRF Energy Corps Programs will create hands-on work experience and training opportunities that are directly connected to the energy efficiency industry and align with prerequisites for EE jobs.

CCC GGRF Energy Crews Direct Project Costs:

- c. EE and WC Installation: An appropriation of \$2.924 million for FY 2016-17 and \$2.539 million for FY 2017-18 will fund the acquisition of equipment, infrastructure, supplies and materials necessary to carry out 'on-demand' retrofit 'direct installations' performed during the Survey process, as well as identifying the EE and WC measures to be installed later through labor intensive retrofit projects (i.e., lighting fixture replacements, Irrigation controls, advanced lighting controls & occupancy sensors, EE hot water heaters, etc.).

The CCC GGRF Energy Corps Programs will augment this amount by leveraging, among other things, Utility EE and WC incentive and rebate programs; 'in kind' and matching funds provided by GGRF Energy Corps Program partners, and substantial discounts from EE and WC industry parts providers through 'bulk purchase' of hardware and supplies used for installation of EE and WC measures. Centralizing this bulk purchasing within the CCC GGRF Energy Corps will streamline procurement and allow for volume discounts that would not otherwise be available if the same EE and WC measures – measures which must be installed in order for the State to meet its AB 32 obligations – are purchased 'piecemeal' and at diverse times by individual State and public entities.

- d. Audit Report Services: The CCC conducts ASHRAE compliant 'whole building' Energy Opportunity Surveys (including Water Conservation) that identify and collect information on all building energy subsystems, as well as the entire building 'envelope'. These Surveys (Audits) collect a comprehensive and extensive amount of energy and water use related information for each building surveyed by the CCC. This data can be combined with utility bill and annual weather information and be transmitted to GGRF Energy Corps partner organization(s), or a contracted entity with the technical expertise needed to professionally analyze the data and generate the required Survey Report for the facility owner and management, that includes recommendations of appropriate EE and WC measures. An example of this is the CCC's Proposition 39 funded Energy Corps program, where the CCC has partnered with the UC Davis Energy Efficiency Center, contracted directly with one private entity to produce hundreds of Energy Opportunity Survey Reports. Additionally, various third party vendors have used CCC-collected data sets to prepare Survey Reports for LEAs. Therefore, the CCC will allocate up to \$750,000 of this amount to fund contract services that are required to analyze the EE and WC data collected by the CCC and generate the necessary Survey Reports and Recommendations.

Forest Health Program

CCC's GGRF Forest Health Program would focus on improving California's forest health and resilience through fuel load reduction, dead and dying tree removal, reforestation, and fire remediation projects. The CCC is

Analysis of Problem

requesting \$5.0 million for FY 2016-17 in Collins Dugan expenditure authority for the GGRF Forest Health Program to fund projects similar to the following:

1. Locally-Generated Forest Health Projects: \$2.25 million for FY 2016-17 for projects to improve forest health and resiliency and sequester carbon to combat climate change. Projects will be distributed throughout California with all 12 of CCC's districts participating in the program. The CCC will work with state agencies (e.g. Department of Forestry and Fire Protection (Cal FIRE), Department of Water Resources (DWR), Department of Parks and Recreation (Parks), Federal agencies such as the United States Forest Service (USFS) and Bureau of Land Management (BLM), local municipalities, fire councils, and Conservancies. Local CCC Districts will work with local representatives of affected jurisdictions to generate projects that meet local needs for high priority Forest Health projects. Projects would include fuel load reduction, creation of shaded fuel breaks, felling of dead and dying trees (in support of the Tree Mortality Task Force), and reforestation and erosion control. The \$2.25 million would also fund 10 additional corpsmembers and four additional staff: (1.0) Conservationist II (CII), (2.0) Conservationist Is (C1s), and (1.0) Business Services Assistant (BSA).
2. Central Valley Tent Camp: \$1.5 million for FY 2016-17 to operate a "tent camp" for one year in the Central Valley to provide assistance associated with the Governor's Emergency Proclamation on the tree mortality epidemic, general forest health and to continue water conservation projects started in FY 2014-15 with CCC's Emergency Drought Response Program (EDRiP). The CCC will concentrate on counties identified by Cal FIRE and USFS as High Hazard Zones for Drought Related Tree Mortality: Tuolumne, Mariposa, Madera, Fresno, Tulare, & Kern. A CCC tent camp operates as a mobile residential center providing corpsmembers with living conditions in a rural setting to be near work projects. The \$1.5 million would fund 40 additional corpsmembers, two Special Corpsmembers, and six staff: (1.0) Conservationist II (CII), (3.0) C1s, (1.0) Cook, and (1.0) Administrative Officer (AO).
3. Fire Remediation: \$1.25 million for 2016-17 to allow CCC to provide counties impacted by forest fire (i.e. Lake and Calaveras Counties) with CCC crew(s) and associated staff to provide natural resources work to restore the areas in the footprints of the Valley, Butte, and other fires. Projects would include erosion control, reforestation and meadows restoration, fuel load reduction around critical infrastructure such as access roads and public drinking water systems. The \$1.25 million would fund 50 additional corpsmembers, two Special Corpsmember, and seven staff: (1.0) Conservation Supervisor, (1.0) CII, (4.0) C1s, and (1.0) BSA.
4. Program Support: Funding for 6.5 staff to provide support for the above projects are accounted for in the applicable projects above. The support staff would consist of (3.5) Associate Governmental Program Analysts, (0.5) Personnel Specialist, (0.5) Associate Information Systems Analyst, and (2.0) Office Technician.

E. Outcomes and Accountability

CCC GGRF Energy Crews

Implemented over a two (2) Fiscal Years, the CCC's GGRF Energy Corps Program will contribute substantially to assisting the State in meeting its Greenhouse Gas Emissions (GHGE) reduction targets throughout California. The CCC's GGRF Energy Corps Program will focus on the following EE and WC Program deliverables:

- a. EE and WC Energy Opportunity Surveys: The CCC will perform Energy Opportunity Surveys (ASHRAE compliant energy audits) for Public Buildings consisting of the following activities, and result in the GHGE reductions as noted:
 - i. Comprehensive EE and WC Data Collection - performed by the CCC on-site for each public building (or 'sites', which may be groups of buildings) surveyed using energy industry ASHRAE compliant processes, procedures, software systems, and tools (60% or more of which will be located in CalEPA designated Disadvantaged Communities).
 - ii. Direct Installs of EE and WC Measures - at each public building during the Energy Opportunity Survey process, a select list of proven EE and WC Measures will be installed (as may be required), resulting in immediate and sustainable energy and water use savings (determined by using existing 'deemed' or calculated savings values for each EE and WC Measure installed). The CCC will coordinate with ARB regarding the selection of direct install measures.

Analysis of Problem

- iii. **Dissemination of Best Practices to Facility Managers** – at each public building Surveyed, during the Energy Opportunity Survey process, crews will distribute an Energy Operations & Maintenance Best Practices document to facility and/or maintenance managers, and discuss their applicability to each facility. The Energy Operations and Maintenance Best Practices document is based on industry standard (ASHRAE) guidelines for EE 'Best Practices', and will be updated to include new or improved practices that result in EE savings and GHGE reductions over time that can be measured by ARB approved quantification metrics.
- iv. **EE and WC Survey Reports & Recommendations** – either under contract with the CCC or independently, 3rd party energy industry experts will perform comprehensive analysis of the EE and WC data collected by the CCC during the Energy Opportunity Survey process, resulting in an Energy Opportunity Survey Report containing specific recommendations for each individual public building (or site) surveyed (in terms of the most effective EE and WC recommendations to be implemented). The recommendations contained in the Survey Reports will include: (i) appropriate recommended EE and WC retrofits, and (ii) recommended Operations and Maintenance Best Practices. All of which can reduce energy and water use, resulting in GHGE reductions for these Public Buildings.
- v. **Estimated EE Savings and GHGE Reductions**: Using energy industry data, the average energy savings for commercial class buildings (a category which typically includes most public buildings) that have received Energy Opportunity Surveys (ASHRAE compliant Energy Audits) is 22% ¹. These energy savings result from a combination of direct installs of EE measures, subsequent recommended EE Retrofit installations that are implemented, and the implementation of a variety of recommended Energy O&M Best Practices. It is important to note that achieving these 'industry average' savings does not include the implementation of 'all possible' recommended EE measures and Energy O&M Best Practices recommended by the energy audits.

Accordingly, the CCC estimates an average energy savings of 4% per building (or site) Surveyed resulting from the combination of: (i) Direct Installs performed by the CCC of EE retrofits during the Survey process, and (ii) the provision to (and subsequent use in part by) the facilities management and staff for each facility Surveyed of an ASHRAE compliant comprehensive guide for EE O&M Best Practices within the context of opportunities for their building that are identified during the Survey process. Please note that for the purposes of this proposal, only energy and GHGE savings resulting from the Direct Installs of EE Retrofits performed during the Survey process are included in this proposal.

¹ **Source for Audited Commercial Building Energy Savings:** <http://www.environment.ucla.edu/media/files/Retrofitting-Commercial-Real-Estate-30-mlg.pdf>

- vi. **GHGE Reductions Resulting from WC Savings**: Pumping, heating, and waste water processing consumes more than 21% of all electrical energy in California. Water and energy industry calculations are available for calculating the equivalence of the amount of "embedded" electrical and thermal energy used 'per gallon of water saved'. From these energy savings resulting from water conservation numbers, estimated equivalent GHGE reductions can be readily calculated. For the purposes of this proposal, however, while there will certainly be actual and substantial GHGE reductions resulting from the embedded energy saved associated with the large number of WC measures installed by the CCC during the Survey Process, and in subsequent WC Retrofit projects, only estimated equivalent GHGE reductions resulting directly from specific energy savings WC measures (such as the installation of EE water heaters) are included in this proposal. The CCC will work with ARB to coordinate the selection of appropriate EE/WC measures, and apply any applicable and appropriate ARB quantification metrics regarding these EE/WC GHGE savings.
- vii. **Estimated GHGE Reductions Resulting from EE 'Direct Installs' During Survey**: The CCC will perform an estimated total of EE and WC Energy Opportunity Surveys (ASHRAE compliant energy audits) that include EE 'Direct Install' retrofits as follows:

FY 16-17: 374 Buildings (sites) = Annual Reduction of GHGE = 596 Metric Tons (CO₂)²

Analysis of Problem

FY 17-18: 695 Buildings (sites) = Annual Reduction of GHGE = 1,108 Metric Tons (CO₂)²
Totals: 1,069 Buildings (sites) = Annual Reduction of GHGE = 1,704 Metric Tons (CO₂)²

² **Source for GHGE Savings Calculations:** PG&E's ClimateSmart program, authorized by the California Public Utilities Commission in Decision 06-12-032. A simpler approach is to use an average emissions rate such as the California Public Utilities Commission (CPUC) approved 'ClimateSmart' electric emissions rate of 0.524 lbs CO₂ per kWh. This reasonable approximation is based on the average emissions rate for PG&E's electric portfolio, consistent with the emissions rates that were independently verified and registered with the California Climate Action Registry (see www.climateregistry.org). The CPUC-approved ClimateSmart natural gas emissions rate is 13.446 lbs CO₂ per therm.

Source URL: <http://www.pge.com/myhome/environment/calculator/assumptions.shtml>

- b. **EE and WC Retrofits:** The CCC will schedule and perform EE and WC Retrofit installations identified during the Survey process of proven EE and WC measures for public buildings at the State, County, and Municipal levels, located throughout the State (60% or more of which will be located in CalEPA designated Disadvantaged Communities). These EE and WC Retrofit installations will be conducted both directly by the CCC and in conjunction with participating energy industry Program partners (such as Contractors, ESCOs, 3rd Party Energy Efficiency Companies, and the facilities O&M staff of public buildings surveyed).
- i. **EE and WC Retrofit Installation Projects:** Over the two (2) Fiscal Years of the CCC's GGRF Energy Corps Program, it is estimated that the CCC will perform labor intensive EE and WC Retrofit installation project work (primarily LED lighting retrofits) for 15% (or more) of all of the public buildings that receive CCC Energy Corps GGRF Energy Opportunity Surveys. The EE and WC Retrofits installed will be selected from well proven EE and WC measures, all of which have either established 'deemed' or 'calculated' savings for each measure.
- ii. **GHGE Reductions Resulting from EE Retrofit Installations:** As previously stated, according to energy industry data, the average energy savings for commercial class buildings (a category which includes most Public Buildings) that receive CCC ASHRAE compliant Energy Opportunity Surveys (energy audits) and associated EE retrofits is 22%¹. Therefore, the CCC conservatively estimates that an average of 10% savings of the total energy consumed will be achieved within Public Buildings that receive the CCC's Energy Corps EE and WC Retrofit Installation project services. Accordingly, the CCC estimates the following GHGE Reductions for the Public Buildings at which the CCC perform EE and WC Retrofit project services:
- FY 16-17: 83 Buildings (sites) = Annual Reduction of GHGE = 1,193 Metric Tons (CO₂)²
FY 17-18: 155 Buildings (sites) = Annual Reduction of GHGE = 2,215 Metric Tons (CO₂)²
Totals: 238 Buildings (sites) = Annual Reduction of GHGE = 3,408 Metric Tons (CO₂)²
- c. **Reporting:** The CCC will produce reports that provide: (i) the numbers of EE and WC Energy Opportunity Surveys performed, (ii) all EE and WC Retrofit installations completed at public buildings, (iii) the names and locations of all public buildings receiving the CCC's GHGR Energy Program services (60% or more of these Surveys and Retrofit Installations projects will be located in CalEPA designated Disadvantaged Communities), (iv) the estimated energy and water conservation savings, (v) EE and WC supplies and materials used by the CCC, (vi) the estimated (calculated) GHGE reductions to be expected, and (vii) for each Corpsmember engaged in GGRF Energy Corps work whose pre-enrollment ZIP code was within a CalEPA designated Disadvantaged Community, the dates of enrollment and separation.¹ At a minimum, these reports will be sent to the ARB and DOF, however, they also will be publically available.
- d. **Controls:** The CCC will use the CCC's well established operational management processes, procedures, and inventory controls, developed through the implementation of various bond-funded

¹ Currently, the CCC operates 27 facilities statewide. Nine of these facilities (Stockton, Fresno, Santa Maria, Monterey Bay, Inland, Pomona, Los Angeles, Norwalk, and San Diego/National City) are located in CalEPA designated "disadvantaged communities." Of the 76 most disadvantaged communities (those with a CalEnviroScreen 2.0 score above 60.00) the CCC, within the last three fiscal years, has: Conducted 160 projects across 20 of those communities; and, enrolled 481 Corpsmembers directly from those communities.

Analysis of Problem

programs (such as Proposition 40 and 84) to ensure that all GGRF materials and supplies required for EE and WC Energy Opportunity Surveys and Retrofit Installations are fully accounted for.

CCC GGRF Forest Health Crews

The requested staff will oversee corpsmember crews, provide program oversight, and perform administrative functions related to these projects associated with fuel load reduction, reforestation, and fire remediation. The CCC receives monthly expenditure reviews, validates project progress and completion through reporting and site visits, and reviews quarterly reports of project status.

The CCC will work with California Air Resources Board, California Environmental Protection Agency, and other partner agencies including CALFIRE to use appropriate methodology to calculate Greenhouse Gas Emission Reductions associated with the projects outlined.

F. Analysis of All Feasible Alternatives

CCC GGRF Energy Corps

Alternative A: Approve the request for an appropriation of \$15.0 million from the Greenhouse Gas Reduction Fund (GGRF) as well as the 24 PYs necessary to support 110 CCC Corpsmember FTEs, all of which will be part of a CCC GGRF Energy Corps Program focused on GHGE reductions at public buildings, 60 percent or more of which will occur within CalEPA designated Disadvantaged Communities whose Energy Efficiency (EE) and Water Conservation (WC) needs have not been sufficiently addressed by other funding sources (e. g., Proposition 39, EPIC, CPUC funded EE incentive programs, etc.).

Pros:

- Provides immediate and substantial, sustainable, and long term reductions in GHGE.
- Immediate and substantial energy and water savings at public buildings.
- Increases the number of young adults and veterans trained and engaged in GHGE reducing EE and WC work.
- 60 percent or more of EE and WC project work performed within CalEPA designated disadvantaged communities, and all of the attendant benefits associated therewith.
- Increases the number, frequency, and speed of EE and WC Surveys of public buildings.
- Provision of Survey data to the marketplace will create opportunities for more EE and WC improvement and retrofit projects, thereby resulting in more energy industry job opportunities.
- Bulk purchase of EE and WC hardware will help to drive down prices, not just for California public entities, but also for other EE and WC consumers throughout California.
- Assurance that State entities abide by the Legislative mandate to use CCC crews to the maximum extent feasible when undertaking projects consistent with the CCC's mission.

Cons:

- Increase in CCC staff.
- Increased cost to the GGRF.

Alternative B: Do not approve the request for funding or for additional PYs.

Pros:

- No increase in CCC staff.
- No increased cost to the GGRF.

Cons:

- No additional reduction of GHGE achieved.
- No additional water conservation savings.
- EE and WC measures continue to be identified and installed in public buildings at a slow pace.
- Cost effective additional reductions in GHG emissions are not realized.
- Fewer young adults and veterans trained and engaged in GHGE reducing EE and WC work.

Analysis of Problem

- Limits the amount of EE and WC data collected in a centralized location (Collecting and making available vast amounts of energy and water use and efficiency data is critical to the research necessary for EE and WC market transformation. Indeed, the CCC's longtime Energy Corps partner, the UC Davis Energy Efficiency Center, has cited the centralized collection and public availability of such data as a critical element of transforming the energy marketplace.)

Alternative C: Approve \$5.0 million to fund and maintain ten (10) CCC crews, 20 civil service PYs to support CCC crews.

Pros:

- Same benefits as described in Alternative A, but to a much lesser degree over a shorter time period, and with reduced impact in terms energy and water conservation, GHGE reductions, and energy industry training and job opportunities for young adults.

Cons:

- Increase in CCC staff.
- Increased cost to the GGRF.

CCC GGRF Forest Health Program

Alternative A: Approve the request for an appropriation of \$5.0 million from the Greenhouse Gas Reduction Fund (GGRF) for FY 2016-17 to support 100 CCC Corpsmember FTEs, three Special Corpsmembers, and 23.5 staff, all of which will be part of a CCC Program focused on GHGE reductions through fuel reduction load, drought reduction, reforestation, erosion control and fire remediation.

Pros:

- Provides underserved communities with help in natural resource work related to forest health including six counties identified as High Hazard Zones with Drought Tree Mortality: Tuolumne, Mariposa, Madera, Fresno, Tulare, Kern, and
- Allows the CCC to continue its mission of a workforce development plan
- Provides assistance to Counties who were impacted significantly with California fires (i.e. Valley & Butte).
- Provides assistance to state agencies responsible for implementation of projects associated with the Governor's Emergency Proclamation on the tree mortality epidemic.
- Prevent California wildfires which would result in additional Greenhouse Gas emissions.
-

Cons:

- Increase in CCC staff.
- Increased cost to the GGRF Forest Health.

Alternative B: Do not approve the request for additional funding.

Pros:

- No increase in CCC staff.
- No increased cost to the GGRF Forest Health.

Cons:

- No additional reduction of GHGE achieved.
- No additional water conservation savings.
- No additional work on forest health and fire remediation for underserved communities.
- Fewer young adults and veterans trained and engaged in GHGE reducing work.

G. Implementation Plan

Upon approval of the budget request, the CCC GGRF Energy Corps will:

Analysis of Problem

- (1) Revise its facilities plan to insure sufficient space for an additional 110 Corpsmember FTEs and 24 PYs in a staged approach;
- (2) July 2016: implement procurement plan for all support needs (including training contracts, project and CCC Center-specific items);
- (3) July 2016: begin the staff and Corpsmember recruitment process (recruit 110 Corpsmembers and supporting 24 staff in first FY, sustaining 110 Corpsmembers and 24 staff in FY 17/18) [Note: Throughout the recruitment and training process, the CCC will draw a portion of its GGRF Energy Corps Corpsmembers and staff from its existing crews (replacing them thereafter), thereby leveraging training and experience funded by non-GGRF sources.];
- (4) July 2016: begin to work with ARB to coordinate and identify appropriate quantification methodologies and to develop any quantification methodologies that are necessary but may not yet be established;
- (5) August 2016: identify and catalogue public buildings throughout California in general, and within CalEPA designated disadvantaged communities appropriate for EE and WC services;
- (6) September 2016: begin the process of contacting and entering into contracts with the owners and operators of the aforesaid public buildings;
- (7) October 2016: train and deploy on a continuing basis the 110 Corpsmembers and 24 associated staff to implement EE and WC data collection.

Throughout the GGRF Energy Corps operations, the CCC will:

- (1) Ensure that at least 60% of all funding goes to projects within disadvantaged communities;
- (2) Partner with Energy Industry academic, utility, and industry expert entities;
- (3) Conduct the GGRF Energy Corps' training element in partnership with the State's Community College System, and leverage any new budgetary authority and direction given to the CCCCO's Institutional Effectiveness Program;
- (4) Distribute its best practices and innovations to, and work with, the public and private sector to promote widespread adoption of EE and WC measures that reduce GHGE; and,
- (5) Monitor, verify, and provide reports on GHGE reduction outcomes.

Upon approval of the budget request for the GGRF Forest Health Program, the CCC will:

- (1) July 2016: implement procurement plan for all support needs;
- (2) July 2016: begin the staff and Corpsmember recruitment process (recruit 100 Corpsmembers, 3 Special Corpsmembers, and supporting 23.5 staff. [Note: Throughout the recruitment and training process, the CCC will draw a portion of its GGRF Corpsmembers and staff from its existing crews (replacing them thereafter) thereby leveraging training and experience funded by non-GGRF sources];
- (3) July 2016: begin to coordinate with ARB to identify appropriate quantification methodologies and to develop any quantification methodologies that may be necessary but not yet established;
- (4) August 2016: identify potential project sites with partnering agencies; and,
- (5) August 2016- June 2017: train and deploy on a continuing basis the 100 Corpsmembers, 3 Special Corpsmembers, and 23.5 associated staff.

H. Supplemental Information

In order to implement the proposed the GGRF Energy Corps Program described herein, the CCC will need to purchase specific equipment, supplies, and materials as 'one-time costs'.

I. Recommendation

Approve Alternative A: Approval of this proposal would provide the CCC with the means to develop, enhance and deploy validated GHGE reducing solutions in sectors not sufficiently served or addressed by existing funding sources and EE programs, while simultaneously training a labor force that can significantly help to insure the widespread implementation and installation of energy efficiency and related water conservation measures necessary for the State to meet and exceed its AB 32 obligations. Approval of this proposal will allow public entities to easily and efficiently access CCC labor – as state agencies are already statutorily required to use to the maximum extent feasible – in order to rapidly and cost effectively identify and install GHG Emission reducing energy efficiency related water conservation measures.

BCP Fiscal Detail Sheet

BCP Title: Energy Corps

DP Name: 3340-008-BCP_DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Salaries and Wages						
Earnings - Temporary Help	0	3,385	0	0	0	0
Total Salaries and Wages	\$0	\$3,385	\$0	\$0	\$0	\$0
Total Staff Benefits	0	1,456	0	0	0	0
Total Personal Services	\$0	\$4,841	\$0	\$0	\$0	\$0
Operating Expenses and Equipment						
5301 - General Expense	0	208	0	0	0	0
5302 - Printing	0	22	0	0	0	0
5304 - Communications	0	60	0	0	0	0
5306 - Postage	0	7	0	0	0	0
5320 - Travel: In-State	0	278	0	0	0	0
5322 - Training	0	141	0	0	0	0
5324 - Facilities Operation	0	403	0	0	0	0
5326 - Utilities	0	58	0	0	0	0
5340 - Consulting and Professional Services - External	0	6,920	0	0	0	0
5346 - Information Technology	0	52	0	0	0	0
5368 - Non-Capital Asset Purchases - Equipment	0	1,087	0	0	0	0
539X - Other	0	5,923	0	0	0	0
Total Operating Expenses and Equipment	\$0	\$15,159	\$0	\$0	\$0	\$0
Total Budget Request	\$0	\$20,000	\$0	\$0	\$0	\$0

Fund Summary

Fund Source - State Operations						
0318 - Collins-Dugan Calif Conservation Corps Reimbursement Acct	0	5,000	0	0	0	0
3228 - Greenhouse Gas Reduction Fund	0	15,000	0	0	0	0
Total State Operations Expenditures	\$0	\$20,000	\$0	\$0	\$0	\$0
Total All Funds	\$0	\$20,000	\$0	\$0	\$0	\$0

Program Summary

Program Funding

2360010 - Training and Work Program--Base and Fire Centers	0	20,000	0	0	0	0
9900100 - Administration	0	635	0	0	0	0
9900200 - Administration - Distributed	0	-635	0	0	0	0
Total All Programs	\$0	\$20,000	\$0	\$0	\$0	\$0

Personal Services Details

Salaries and Wages

TH00 - Temporary Help (Eff. 07-01-2016)

Total Salaries and Wages

Staff Benefits

5150150 - Dental Insurance

Total Staff Benefits

Total Personal Services

CY	BY	BY+1	BY+2	BY+3	BY+4
0	3,385	0	0	0	0
\$0	\$3,385	\$0	\$0	\$0	\$0
0	1,456	0	0	0	0
\$0	\$1,456	\$0	\$0	\$0	\$0
\$0	\$4,841	\$0	\$0	\$0	\$0